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MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			EXAMINER CLEMENTE, ROBERT ARTHUR	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/587,766	Applicant(s) KRISKO ET AL.	
	Examiner ROBERT A. CLEMENTE	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-43 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 38-43 is/are allowed.
- 6) ☒ Claim(s) 22-37 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20061026, 20090203</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “378” has been used to designate both a part of the flange (370) in figure 8 and central vane in figure 17. Reference character “400” has been used to designate both an air cleaner in figure 16 and a cavity in figure 17. Reference character “401” has been used to designate both a precleaner in figure 16 and a resin in figure 17. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

“67” and 68” in figure 9C as in page 19 line 31. (reference character “67” has also already been used to designate an axis in figure 9B)

“189” in figures 11 - 14 as in page 26 line 18.

“246” in figure 3 as in page 28 line 1.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

“55” in figure 55.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be

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notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities: In page 20 lines 4 and 6, "grid work 69" should be changed to --grid work 59--. In page 26 line 31, "partition 189" should be changed to --partition 188--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 22 - 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 22 recites the limitation "the housing seal support" in the ninth line of the claim. There is insufficient antecedent basis for this limitation in the claim. The claim only provides antecedent basis for a "seal support", the examiner suggest changing "the housing seal support" to --the seal support--.

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Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 22, 23, 26, 30, and 34 - 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,350,291 to Gieseke et al. in view of US Patent Application Publication No. 2003/0146149 to Binder et al.

Gieseke discloses an air filter pack (50), or an air filter cartridge, as shown in figure 1. Figure 10 also shows an alternate embodiment for the filter pack (450). The media (55) used in the filter pack (50) is shown in more detail in figure 2. As disclosed in column 3 lines 28 - 46, the media (55) forms a z-filter media pack including a fluted media (123) secured to a facing media (132). The media pack (55) has an inlet flow face (105), and outlet flow face (110), and an axial length between the flow faces. The air filter pack (50) includes a sealing system (60) having a frame (205). The frame is shown alone in figure 6. The frame (205) can be considered a shell, as broadly recited

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in the claims and has opposite ends and a sidewall extending from the first end at the tip (180) to the end at the bottom of the lip (251). As shown in figure 1, the frame (205) extends around the entire circumference of the media pack (55); thus the frame, or shell, sidewall can be considered to circumscribe the media pack (55). As shown in figure 7, the tip portion (263) of the frame (205, or shell, forms a seal support. As disclosed in column 7 lines 15 - 22, the filter construction (100) containing the media pack (55) is secured in the frame (205), or shell, such as by an adhesive. As shown in figure 1, cross braces (210) forming a grid work extend over the outlet flow face (110). The embodiment of figure 10 also includes a truss system (612), or grid work, over the outlet flow face (510). As shown in figure 7, a seal member (250), or seal arrangement, is secured to the seal support (263). Gieseke, however, does not disclose including apertures in the seal support. Binder discloses an annular shaped filter element with a pleated filter medium (11), as shown in figure 1a. The filter element includes an end disk (14) with a web (19) that forms a seal support. An elastomer seal (20) is secured on the web (19). The web (19) includes openings which are filled up with the elastomer of the seal to form a reliable connection between the seal (20) and the web (19).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Gieseke to include a plurality of openings, or seal flow apertures, in the seal support (263) and to mold the seal member (250) through the openings as suggested by Binder in order to ensure the seal is securely connected to the seal support.

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In regard to claim 23, as disclosed in column 15 lines 41 - 48 of Gieseke, the frame (205), or shell, can comprise a molded plastic material. As disclosed in column 8 lines 21 - 26, the seal arrangement of Gieseke comprises foamed polyurethane.

In regard to claim 26, as shown in both figures 4 and 12, the grid work (210, 612) is an integral part of the frame (205, 605), or shell.

In regard to claim 30, the media pack (470) comprises a coiled z-filter media pack and a core (454) within the media pack.

In regard to claim 34, the seal support (263) has the same annular shape as the media pack (50).

In regard to claim 35, in the combination with Binder a plurality of openings, or seal flow apertures, is located along the annular seal support (263) to form a similar seal support web as Binder to allow for a more secure connection between the seal member (250) and the seal support (263).

In regard to claim 36, as shown in figure 6 of Gieseke, the lip (251) forms a sidewall portion at one end of the shell (205). The step (253) forms a transition portion canted relative to the sidewall portion (251).

Allowable Subject Matter

11. Claims 24, 25, 27 - 29, and 31 - 33, and 37 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12. Claims 38 - 43 allowed.

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13. The following is a statement of reasons for the indication of allowable subject matter:

In regard to claims 24 and 25, Gieseke discloses a seal arrangement (250) that is axially spaced from the media pack (55). There is no teaching or suggestion in Gieseke or Binder to secure the frame (205), or shell, to the media pack (55) by the seal arrangement (250) or to mold the seal arrangement (250) directly to the media pack (55).

In regard to claim 27, as shown in figures 6 and 12, the seal support (263, 663) is generally formed at one end of the shell (205, 605). The grid work (210, 612), however, is formed in the middle of the shell. If the grid work was formed at the opposite end of the shell the shell would not be able to circumscribe the media pack.

In regard to claim 28, as shown in figure 5, a portion of the seal arrangement (250) extends over the outlet flow face (110) in Gieseke.

In regard to claim 29, also as shown in figure 5, the seal arrangement (250) in Gieseke forms a radial seal not an axial pinch seal.

In regard to claims 31 and 32, there is no teaching or suggestion in Gieseke for the core (454) to include a receiver and a non-hollow central blade.

In regard to claim 33, as shown in figure 10 of Gieseke, the media pack (450) and shell (605) can have a racetrack shape. There is no teaching or suggestion in Gieseke, however, for the seal support (263, 663) to extend radially outwardly.

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In regard to claim 37, the step (253) on the shell (205) can be considered a transition portion. There is no teaching or suggestion in Gieseke, however, for including any seal material between the step (253) and the media pack (55).

In regard to claims 38 - 43, the examiner did not find any prior art that taught or suggested an air filter cartridge comprising: a z-filter media pack comprising fluted media secured to facing media; the media pack having an inlet flow face, an outlet flow face, and an axial length between the inlet flow face and outlet flow face; the media pack defining a longitudinal axis; and a shell and a seal arrangement; the shell and seal arrangement extending the axial length of the media pack; the shell having a sidewall and a portion that is canted relative to the longitudinal axis of the media pack; the shell sidewall circumscribing the media pack; the media pack being secured within the shell; the seal arrangement being molded to the canted portion.

US Patent No. 6,368,374 to Tokar et al. represents the closest prior art. Figure 18 of Tokar shows a filter assembly (34), or air filter cartridge, held in a filter housing (36). The filter housing can be considered a shell, as broadly recited in the claims. As shown in figure 15, the filter assembly (34) uses a z-filter media pack. The housing (36), or shell, includes a side wall (200) and a canted portion (210). The canted portion contacts the sealing gasket (230) on the filter assembly (34). There is no teaching or suggestion of molding the sealing gasket (230), or seal arrangement, to the canted portion (210) because the filter assembly (34) is removably secured to the housing (36) so it can be changed and replaced.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Other prior art references listed on the PTO-892 (Notice of References Cited) are considered to be of interest disclosing similar filter cartridges.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT A. CLEMENTE whose telephone number is (571)272-1476. The examiner can normally be reached on M-F, 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RAC

/DUANE SMITH/
Supervisory Patent Examiner, Art Unit 1797